Accommodations Toolkit

Human Read Aloud: Research

This fact sheet on **human read aloud** is part of the *Accommodations Toolkit* published by the National Center on Educational Outcomes (NCEO). It summarizes information and research findings on human read aloud as an accommodation[1]. The toolkit also contains summary of states' accessibility policies for human read aloud (/nceo/accommodations-toolkit/human-read-aloud-policies).

What is human read aloud? Human read aloud is an oral test accommodation. Written materials are presented orally while a student listens. A test administrator may read the test directions, test questions, and answer choices, and in some cases, passages (Cawthon, 2008; Meloy et al., 2002; Randall & Engelhard, 2010). Human read aloud is typically combined with other accommodations such as extended time and small group setting (Fletcher et al., 2006; 2009).

What are the research findings on who should use this accommodation? Human read aloud may benefit some elementary or secondary students with disabilities (Flowers et al., 2011), including some students with learning disabilities (Calhoon et al., 2000; Fletcher, 2006; 2009; Kappel, 2002), dyslexia (Fletcher, 2006; 2009), visual

impairments including blindness (Barton, 2001), and deaf/hard-of-hearing (Cawthon, 2008) whose disabilities impact their skills in decoding text, language processing, or accessing text across different academic content assessments (Cawthon, 2008; Fincher, 2013).

What are the research findings on the implementation of human read aloud? A total of eighteen studies addressed human read aloud with mixed findings. Some studies found that the accommodation was useful, while others found that human read aloud had little or no effect on student performance. There was wide variation across the studies in exactly what was read aloud to the students. For example, in some studies the directions, items, and response options were read aloud but not the passages, while in other studies the passages were also read aloud.

- Three studies compared the effect of human read aloud on student performance across **more than one academic content (e.g., reading, math, science) assessment.** There were mixed findings regarding the benefit of human read aloud. Two of these studies found that human read aloud had a positive effect on student performance (Flowers, 2011; Meloy et al., 2011), while one found no effect (Taylor, 2017)
    - *Positive Effect*: Flowers et al. (2011) compared the performance of secondary students with disabilities who took a paper-pencil assessment format with human read aloud to the performance of similar students who took a computer-based assessment that provided a synthesized voice read aloud, and found that students had higher scores when human read aloud was utilized on an individual basis for directions, passages, questions, possible responses, and re-readings of text on the English language arts (ELA), mathematics, and science assessments. A second study (Meloy et al., 2002) compared the performance of secondary students with a learning disability in reading to students without disabilities on ELA, mathematics, and science assessments with scripted human read aloud of test directions and questions. The study found that both students with learning disabilities and students without disabilities showed higher scores in all content areas when read aloud was provided.
    - *No Effect.* Taylor (2017), in a study of secondary students with various disabilities, found that students with disabilities who received the read aloud accommodation did not perform better than other students with disabilities who did not receive the accommodation on the ELA and mathematics assessments.
- Six studies examined the effect on performance of students who used human read aloud on a **reading** There were mixed findings across the studies on the effectiveness of the accommodation. Three studies showed a positive effect on student performance (Fletcher et al., 2006, 2009; Randall & Engelhard, 2010), while two studies that focused on whether there were differences between students who received human reader and a comparison group (Fincher, 2013; Harris, 2008; McCormack, 2019) found no differences across groups.
    - *Positive Effect:* Fletcher and his colleagues found that both third-grade students with dyslexia (Fletcher et al., 2006) and secondary students with reading difficulties including dyslexia (Fletcher et al., 2009) generally demonstrated increased scores when provided with human read aloud of items and answer choices bundled with extended time when compared to similar students who did not receive these bundled accommodations, Fletcher et al. (2006, 2009) also found that the scores increased even more when read aloud was provided with extended time and a two-day test administration. The third study found a positive effect (Randall & Engelhard, 2010) with elementary and secondary students with

various disabilities where human read aloud was provided for the entire reading assessment, including passages and questions, and the reading was paced at a natural rate. The elementary students experienced a greater increase in scores with human read aloud than without the accommodation compared to secondary students with disabilities, and to both elementary and secondary students without disabilities.

  - *No Difference in Effect Across Comparison Groups:* In contrast to the previous three studies, three studies (Fincher, 2013; Harris, 2008; McCormack, 2019) compared performance of students with disabilities receiving the human read aloud accommodation with a comparison group and found that student performance was similar across both conditions. Both Fincher and McCormack conducted studies of elementary students that compared the scores of students with and without disabilities who received the human read aloud accommodation and found no difference in scores across the two groups. However, Fincher found that scores generally were higher for both groups when the read aloud accommodation was used, while McCormack found few students were proficient even when they received the accommodation. Another study (Harris, 2008) compared the performance of secondary students with various disabilities who had test directions and test items on an ELA assessment read aloud via either a CD-ROM played on a computer read by a professional reader or by a human reader using a script, and found no statistically significant difference in performance across the two modes.

- Four studies examined the effect of the use of human read aloud on **mathematics** There were mixed findings across the studies on the effectiveness. One study (Calhoon et al., 2000) found that students had increased scores when provided with read aloud by a human reader, one study (Lazarus et al., 2012) had mixed finding, one study (Kappel, 2002) found no effect, and one study (Huynh et al., 2004) had inconclusive findings.
  - *Positive effect.* Calhoon et al. (2000) compared human read aloud and computer-based read aloud, for secondary students with learning disabilities, and found that students had better performance using either mode than without any read aloud accommodation.
  - *Mixed effect.* Lazarus et al. (2012) conducted a study of eighth students with various disabilities. Similar math items were administered to each student in two ways: (1) Students read item silently and then responded to the question, (2) Test administrator read similar items aloud to same students using a script and the students then responded orally. A few students did better with the read aloud, for most there was no effect, and a few did less well when the item was read aloud. The authors concluded that if a student did not know the math content, reading the item aloud did not help.
  - *No Effect*. Kappel (2002) found that there was no increase in scores for elementary students with learning disabilities compared to students without disabilities when read aloud was given for directions and test items.
  - *Inconclusive Findings*. The findings were inclusive for Huynh et al. (2004) because human read aloud and audio-taped read aloud were collapsed into one accommodation (oral administration).
- Three studies examined human read aloud in a **science** Two studies found that students with disabilities performed better when the assessment was read aloud by a human reader (Brumfield, 2014; McMahon et al., 2016). Additionally, there was one study that examined data from a state test used for accountability, and found that students with disabilities who used the read aloud accommodation performed less well than students without disabilities who did not receive the accommodation (Kim et al., 2009).

- *Positive Effect*. Two comparison studies of secondary students without disabilities and students with LD (Brumfield, 2016; McMahon et al., 2014) found that the students with LD performed better than students without disabilities when the assessment was read aloud to them by a human. McMahon et al. (2016) compared science test scores for secondary students with reading comprehension difficulty with and without either human read aloud or digitized podcast format. Both versions of oral delivery were beneficial to all students.

- There were four **comparison studies of human read aloud and technology-based read aloud**.
  - *Greater Positive Effect*. One study found that secondary students with various disabilities had higher scores with human read than with technology-based read aloud on ELA, mathematics, and science assessments (Flowers et al., 2011).
  - *Possible Effect: No Difference Across Modes.* In three studies there was no difference for secondary students with various disabilities between human and technology-based read aloud modes on mathematics (Calhoon et al., 2000), reading (Harris, 2008), and science (McMahon et al., 2016) assessments; however, either mode had a positive effect on performance when compared to no provision of read aloud.
- One study examined **how frequently human read aloud was provided** on reading and mathematics assessments for deaf/hard-of-hearing students (DHH) with or without additional disabilities at various grade levels (Cawthon, 2008). The results indicated that test items read aloud by educational professionals were more likely to be provided to students for a mathematics assessment than for a reading assessment.

What perceptions do students and teachers have about human read aloud? Six research studies examined student and educator perceptions about using human read aloud.

- The findings of two studies suggested that special education administrators (McCormack, 2019) and teachers (Cawthon, 2008) may find professional development on making decisions about the use of the read aloud accommodation useful.
- One study (Pangatungan, 2018) found general education teachers perceived the use of read aloud by a human to be useful.
- One study (Lazarus et al., 2012) found that eighth grade students with various disabilities reported that the human read aloud accommodation reduced their stress; they also believed that the read aloud accommodation increased their scores on a math assessment when compared to reading the test items themselves (though the study also found that read aloud did not improve the actual performance of many of these students).
- Williams (2015) found many students indicated that their overall comfort level increased, particularly on math assessments, when a person read the items aloud to them.
- One study found the educators and students perceived that technology-based read aloud was preferred over human reader. Flowers et al., (2011) found that school staff (e.g., test proctors and coordinators, principals) reported that students preferred computer-based read aloud over human read. The same study also found that secondary students with disabilities said they preferred computer-based assessments with a synthesized voice doing the read aloud, and they believed that they performed better under the computer-based testing condition.

What have we learned overall? Across all content areas studied (reading/ELA, math, science) and grade levels there were mixed findings regarding the effect of the human read aloud accommodation. Some students may benefit from this accommodation—though many may not. Lazarus et al. (2008), found that if students do not know the content that items are assessing, read aloud will not improve performance. The research also suggests that many educators may need professional development on how to make decisions about the selection and implementation of the human read aloud accommodations (Cawthon, 2008; McCormack, 2019). In addition, though students and educators alike generally had positive perceptions of human read aloud, they preferred technology-based read aloud that may provide greater independence to students and is less taxing on educator and school resources. The mixed results on the effects of human read aloud on student assessment performance reinforces the need for further research on the use of the human read aloud accommodation. There is a need for research that delves more into the specific characteristics of students who benefit from human read aloud, as well as for research that focuses on topics such as whether this accommodation is provided in a standardized way across readers.

Footnotes

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Research on human read aloud summarized here is also available in NCEO's searchable *Accommodations for Students with Disabilities Bibliography* (https (https://nceo.info/Resources/bibliographies):://nceo.info/Resources/bibliographies (https://nceo.info/Resources/bibliographies)) and in NCEO syntheses of research from 1999 through 2018 (see summaries for: 1999-2001 (https://nceo.umn.edu/docs/OnlinePubs/TechReport34.pdf), 2002-2004 (https://nceo.umn.edu/docs/OnlinePubs/Tech45/Technical45.pdf), 2005-2006 (https://nceo.umn.edu/docs/OnlinePubs/Tech47/TechReport47.pdf), 2007-2008 (https://nceo.umn.edu/docs/OnlinePubs/Tech56/TechnicalReport56.pdf), 2009-2010 (https://nceo.umn.edu/docs/OnlinePubs/Tech65/TechnicalReport65.pdf), 2011-2012 (https://nceo.umn.edu/docs/OnlinePubs/Synthesis94/Synthesis94.pdf), 2013-2014 (https://nceo.umn.edu/docs/OnlinePubs/Report402/NCEOReport402.pdf), 2015-2016 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport412.pdf), 2017 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport423.pdf), 2018 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport423.pdf), 2019 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport433.pdf). See the reports and online bibliography for additional information about the criteria used to identify studies included in this fact sheet.

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